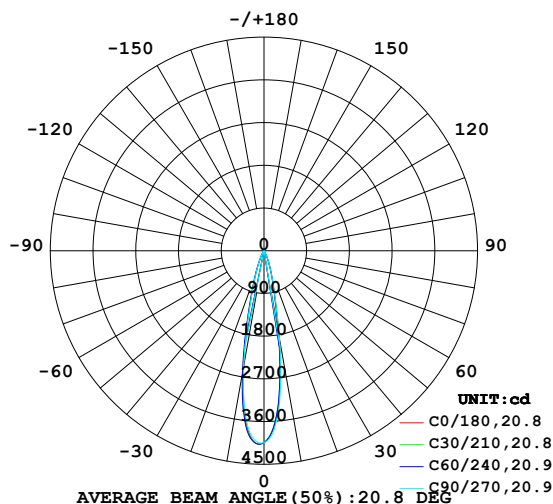


LUMINAIRE PHOTOMETRIC TEST REPORT

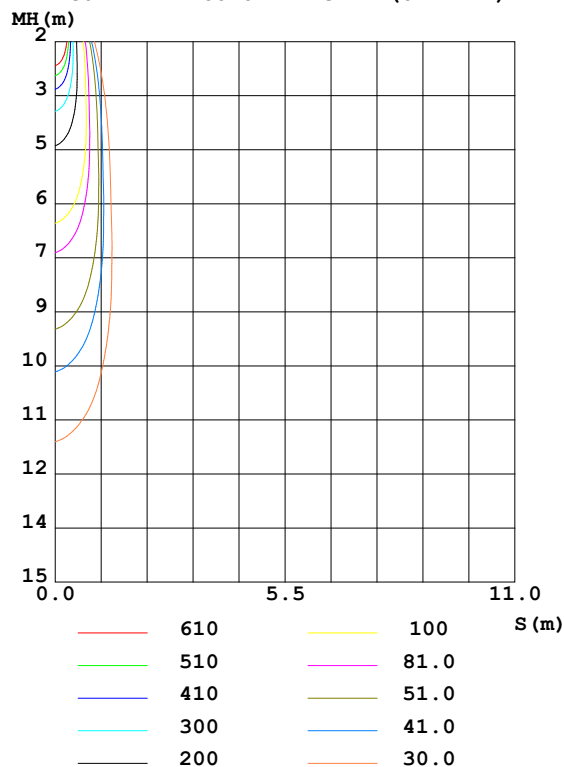
Test:U:221.1V I:0.0526A P:10.65W PF:0.9155 Freq:49.99Hz Lamp Flux:879.65x1 lm		
NAME: MINUX 44-9W-930-20D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 67.94 lm/W			
MODEL	CITIZEN-3000K	I _{max} (cd)	4079	S/MH (C0/180)	0.38
NOMINAL POWER (W)	11	LOR (%)	78.6	S/MH (C90/270)	0.37
RATED VOLTAGE (V)	31	TOTAL FLUX (lm)	691.78	η UP, DN (C0-180)	0.0, 35.3
NOMINAL FLUX (lm)	879.65	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 43.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	30.63	η down (%)	78.6	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jasoan
Test Date: 2023-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 58%
Test Distance: 8.967m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1845	1751	1877	2101	2480	2598	2467	2211	0- 10	295.8	295.8	42.8,33.6
20	374.9	354.5	371.4	410.6	494.0	519.3	492.4	435.7	10- 20	275.3	571.2	82.6,64.9
30	68.59	65.30	64.57	66.92	83.17	91.73	85.07	75.70	20- 30	90.97	662.1	95.7,75.3
40	13.24	11.87	12.44	14.52	18.43	19.51	18.10	16.15	30- 40	23.12	685.3	99.1,77.9
50	2.053	1.890	1.955	2.224	2.499	2.524	2.444	2.381	40- 50	4.740	690.0	99.7,78.4
60	0.5866	0.5472	0.5933	0.8102	1.013	1.029	0.9438	0.7908	50- 60	1.324	691.3	99.9,78.6
70	0.1139	0.0896	0.0708	0.1444	0.1624	0.1818	0.1800	0.1093	60- 70	0.3618	691.7	100,78.6
80	0.0489	0.0327	0.0272	0.0409	0.0217	0.0354	0.0546	0.0327	70- 80	0.0744	691.8	100,78.6
90	0.0271	0.0272	0.0272	0.0273	0.0217	0.0191	0.0218	0.0164	80- 90	0.0302	691.8	100,78.6
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 688.73 lm

%lum = 99.6%

%lamp = 78.3%

Conical surface Flux(120deg): 691.32 lm

%lum = 99.9%

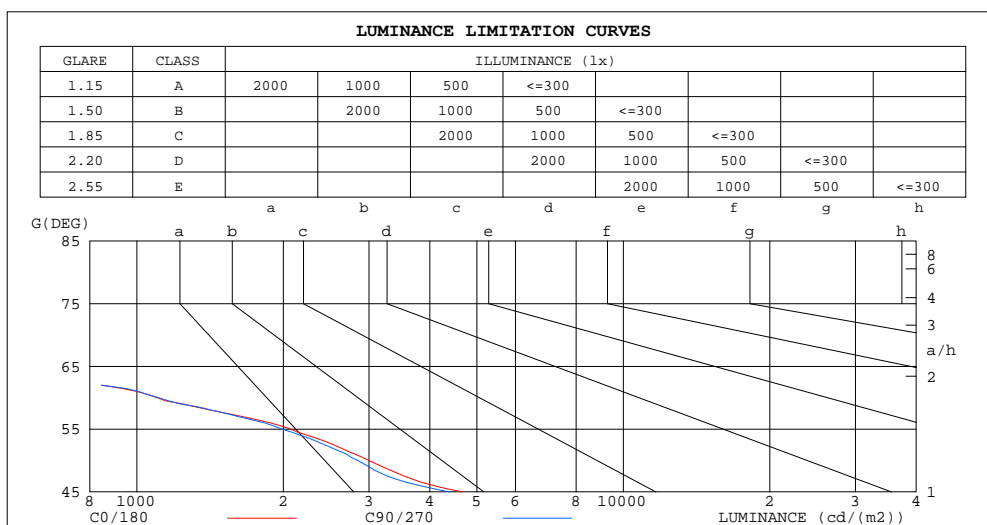
%lamp = 78.6%

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2023-06-12

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:221.1V I:0.0526A P:10.65W PF:0.9155 Freq:49.99Hz Lamp Flux:879.65x1 lm		
NAME: MINUX 44-9W-930-20D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 51mm*H92mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	350	292
80	264	147
75	237	98
70	313	193
65	446	385
60	1101	1108
55	2070	1986
50	2996	2841
45	4671	4392

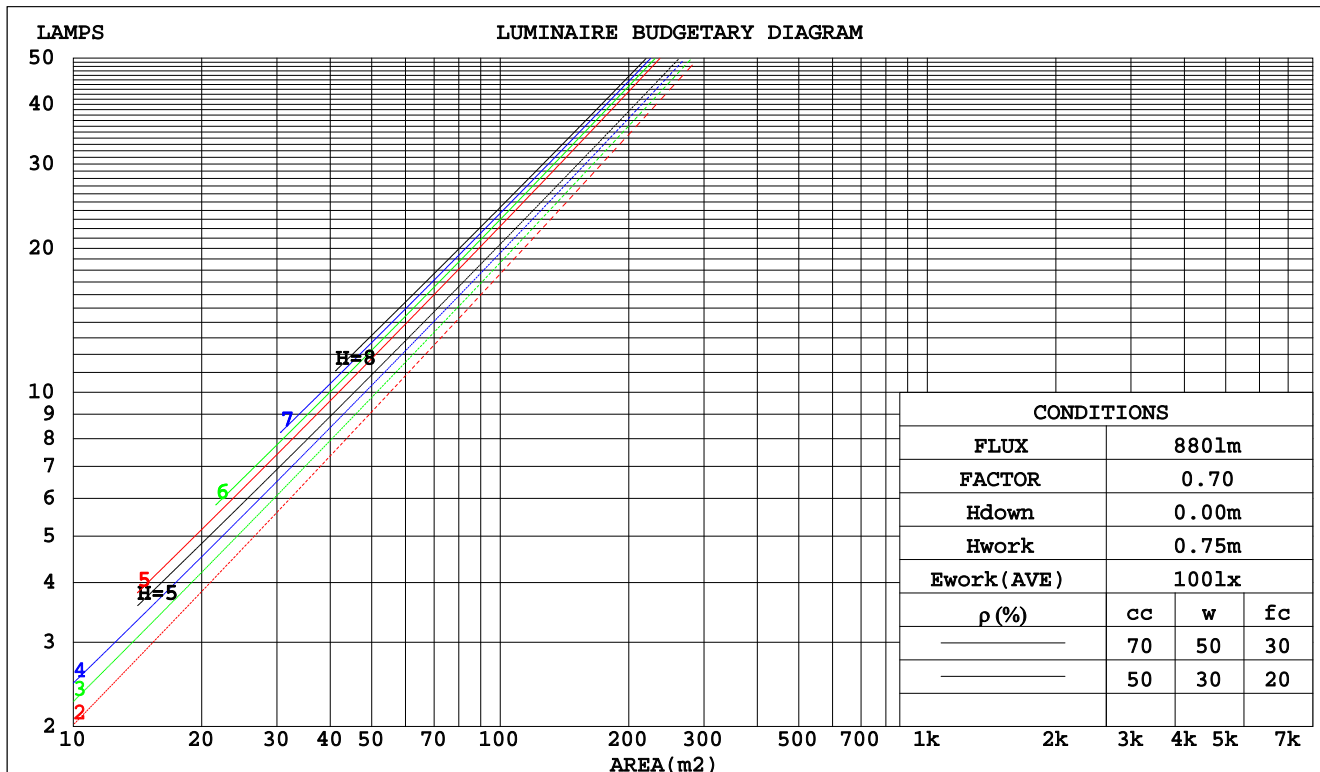
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2023-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:221.1V I:0.0526A P:10.65W PF:0.9155 Freq:49.99Hz Lamp Flux:879.65x1 lm		
NAME: MINUX 44-9W-930-20D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	Coefficients of Utilization(CU)															
0.0	.94	.94	.94	.91	.91	.91	.87	.87	.87	.84	.84	.84	.80	.80	.80	.79
1.0	.89	.88	.86	.87	.86	.85	.84	.83	.82	.81	.81	.80	.79	.78	.78	.76
2.0	.85	.83	.81	.84	.82	.80	.81	.80	.78	.79	.78	.77	.77	.76	.75	.74
3.0	.82	.79	.77	.81	.78	.76	.79	.77	.75	.77	.75	.74	.75	.74	.73	.72
4.0	.79	.76	.74	.78	.75	.73	.76	.74	.72	.75	.73	.72	.74	.72	.71	.70
5.0	.76	.73	.71	.76	.73	.71	.74	.72	.70	.73	.71	.69	.72	.70	.69	.68
6.0	.74	.71	.69	.73	.70	.68	.72	.70	.68	.71	.69	.68	.70	.69	.67	.66
7.0	.72	.69	.66	.71	.68	.66	.70	.68	.66	.70	.67	.66	.69	.67	.65	.65
8.0	.70	.67	.65	.69	.67	.65	.69	.66	.64	.68	.66	.64	.67	.65	.64	.63
9.0	.68	.65	.63	.68	.65	.63	.67	.64	.63	.66	.64	.63	.66	.64	.62	.62
10.0	.66	.63	.61	.66	.63	.61	.66	.63	.61	.65	.63	.61	.65	.62	.61	.60



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2023-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:221.1V I:0.0526A P:10.65W PF:0.9155 Freq:49.99Hz Lamp Flux:879.65x1 lm		
NAME: MINUX 44-9W-930-20D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.103	.059	.019	.098	.056	.018	.088	.051	.016	.079	.046	.015	.071	.041	.013		
2.0	.095	.052	.016	.091	.050	.015	.083	.046	.014	.075	.042	.013	.069	.039	.012		
3.0	.088	.047	.014	.085	.045	.014	.078	.042	.013	.072	.039	.012	.066	.037	.011		
4.0	.082	.043	.013	.080	.042	.012	.074	.039	.012	.069	.037	.011	.064	.035	.011		
5.0	.078	.039	.011	.075	.039	.011	.070	.037	.011	.066	.035	.010	.062	.033	.010		
6.0	.073	.037	.010	.071	.036	.010	.067	.034	.010	.063	.033	.010	.060	.031	.009		
7.0	.069	.034	.010	.068	.034	.010	.064	.032	.009	.061	.031	.009	.058	.030	.009		
8.0	.066	.032	.009	.064	.032	.009	.061	.031	.009	.058	.030	.009	.056	.029	.008		
9.0	.063	.030	.009	.062	.030	.008	.059	.029	.008	.056	.028	.008	.054	.027	.008		
10.0	.060	.029	.008	.059	.028	.008	.057	.028	.008	.054	.027	.008	.052	.026	.008		

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)										
0.0	.150	.150	.150	.128	.128	.128	.087	.087	.087	.050	.050	.050	.016	.016	.016		
1.0	.132	.124	.117	.113	.106	.101	.077	.073	.070	.044	.042	.040	.014	.014	.013		
2.0	.118	.104	.093	.101	.090	.081	.069	.062	.056	.040	.036	.033	.013	.012	.011		
3.0	.105	.089	.076	.090	.077	.066	.062	.053	.046	.036	.031	.027	.012	.010	.009		
4.0	.095	.077	.063	.082	.066	.055	.056	.046	.038	.033	.027	.023	.010	.009	.007		
5.0	.087	.067	.053	.075	.058	.046	.051	.041	.032	.030	.024	.019	.010	.008	.006		
6.0	.080	.059	.044	.069	.051	.039	.047	.036	.027	.027	.021	.016	.009	.007	.005		
7.0	.074	.053	.038	.063	.046	.033	.044	.032	.023	.025	.019	.014	.008	.006	.005		
8.0	.068	.047	.033	.059	.041	.029	.041	.029	.020	.024	.017	.012	.008	.006	.004		
9.0	.064	.043	.029	.055	.037	.025	.038	.026	.018	.022	.015	.011	.007	.005	.003		
10.0	.060	.039	.025	.052	.034	.022	.036	.024	.016	.021	.014	.009	.007	.005	.003		

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jasoan
 Test Date:2023-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:58%
 Test Distance:8.967m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:221.1V I:0.0526A P:10.65W PF:0.9155 Freq:49.99Hz Lamp Flux:879.65x1 lm										
NAME: MINUX 44-9W-930-20D					TYPE:Downlight			SERIAL No.:		
SPEC.:3000K					DIM.: ϕ 51mm*H92mm					
MFR.: NEKO LIGHTING AG										
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	9.5	10.1	9.7	10.3	10.4	9.2	9.8	9.4	9.9	10.1
3H	9.4	9.9	9.6	10.1	10.3	9.0	9.6	9.3	9.8	10.0
4H	9.3	9.8	9.6	10.0	10.3	9.0	9.5	9.2	9.7	9.9
6H	9.2	9.7	9.5	10.0	10.2	8.9	9.4	9.2	9.6	9.9
8H	9.2	9.7	9.5	9.9	10.2	8.8	9.3	9.1	9.6	9.8
12H	9.1	9.6	9.4	9.9	10.1	8.8	9.3	9.1	9.5	9.8
4H 2H	9.3	9.8	9.6	10.1	10.3	9.0	9.5	9.2	9.7	9.9
3H	9.1	9.6	9.4	9.9	10.1	8.8	9.3	9.1	9.5	9.8
4H	9.0	9.5	9.4	9.8	10.1	8.7	9.1	9.0	9.4	9.7
6H	8.9	9.3	9.3	9.7	10.0	8.6	9.0	9.0	9.3	9.7
8H	8.9	9.3	9.3	9.6	10.0	8.5	8.9	8.9	9.3	9.6
12H	8.8	9.2	9.2	9.5	9.9	8.5	8.8	8.9	9.2	9.6
8H 4H	8.9	9.3	9.3	9.6	10.0	8.5	8.9	8.9	9.3	9.6
6H	8.8	9.1	9.2	9.5	9.9	8.4	8.7	8.9	9.1	9.5
8H	8.7	9.0	9.2	9.4	9.8	8.4	8.6	8.8	9.1	9.5
12H	8.7	8.9	9.1	9.3	9.8	8.3	8.5	8.8	9.0	9.5
12H 4H	8.8	9.2	9.2	9.5	9.9	8.5	8.8	8.9	9.2	9.6
6H	8.7	9.0	9.2	9.4	9.8	8.4	8.6	8.8	9.1	9.5
8H	8.6	8.9	9.1	9.3	9.8	8.3	8.5	8.8	9.0	9.4
Variations with the observer position at spacings:										
S = 1.0H	+ 3.9 / -11.0					+ 3.8 / -10.3				
1.5H	+ 6.4 / - 8.4					+ 6.3 / - 7.8				
2.0H	+ 4.6 / - 9.3					+ 4.2 / - 7.5				

CIE Pub.117, 879.7 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = -0.4$)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2023-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:221.1V I:0.0526A P:10.65W PF:0.9155 Freq:49.99Hz Lamp Flux:879.65x1 lm		
NAME: MINUX 44-9W-930-20D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

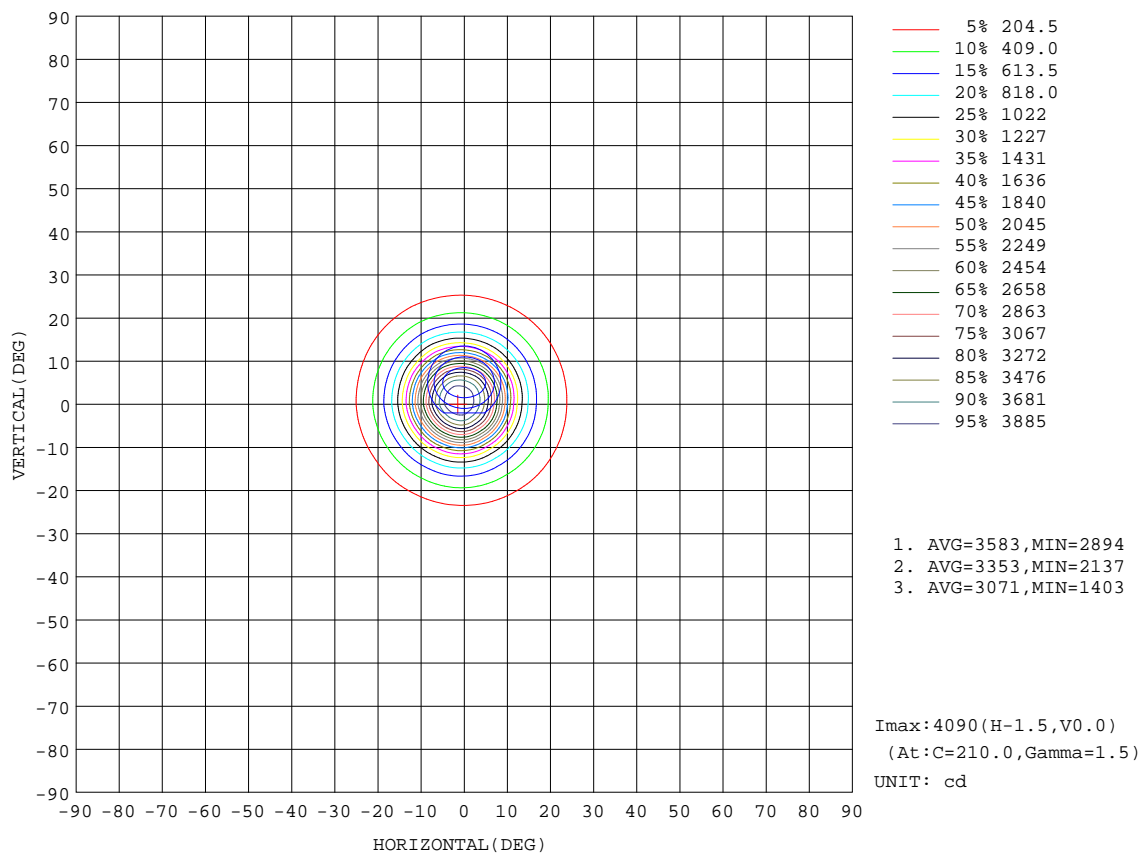
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	72	67	64	71	67	64	71	67	64	62
0.80	77	73	70	77	73	70	76	72	70	67
1.00	80	76	74	79	76	73	78	75	73	70
1.25	83	79	77	82	79	76	81	78	76	73
1.50	85	81	79	84	81	79	82	80	78	75
2.00	86	83	81	85	83	81	83	81	79	75
2.50	88	85	83	86	84	82	84	82	81	76
3.00	89	86	84	87	85	83	85	83	82	77
4.00	90	88	87	88	87	85	86	84	83	78
5.00	91	89	88	89	88	87	86	85	84	79
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jasoan
 Test Date:2023-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:58%
 Test Distance:8.967m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:221.1V I:0.0526A P:10.65W PF:0.9155 Freq:49.99Hz Lamp Flux:879.65x1 lm		
NAME: MINUX 44-9W-930-20D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

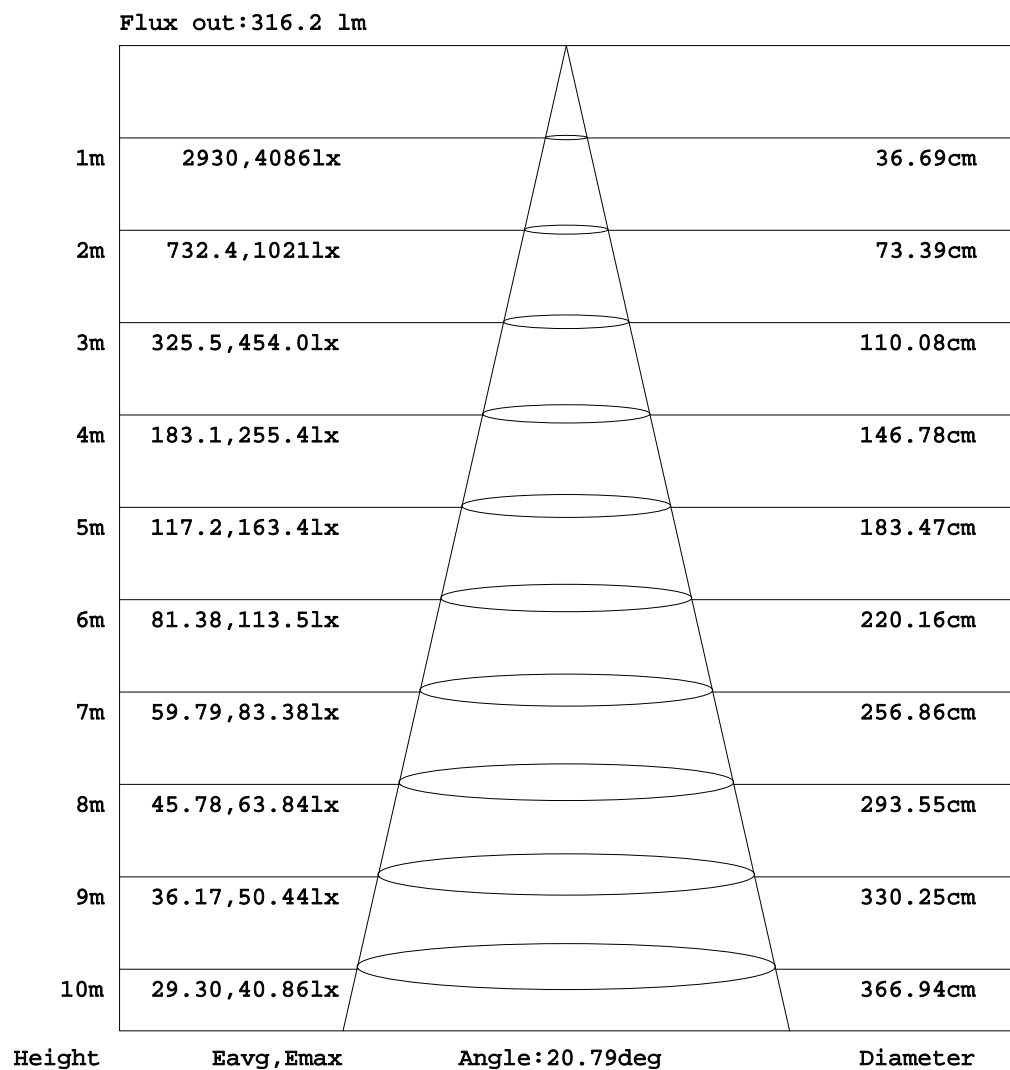


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2023-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

AAI Figure

Test:U:221.1V I:0.0526A P:10.65W PF:0.9155 Freq:49.99Hz Lamp Flux:879.65x1 lm		
NAME: MINUX 44-9W-930-20D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi 51\text{mm} \times H92\text{mm}$	
MFR.: NEKO LIGHTING AG		



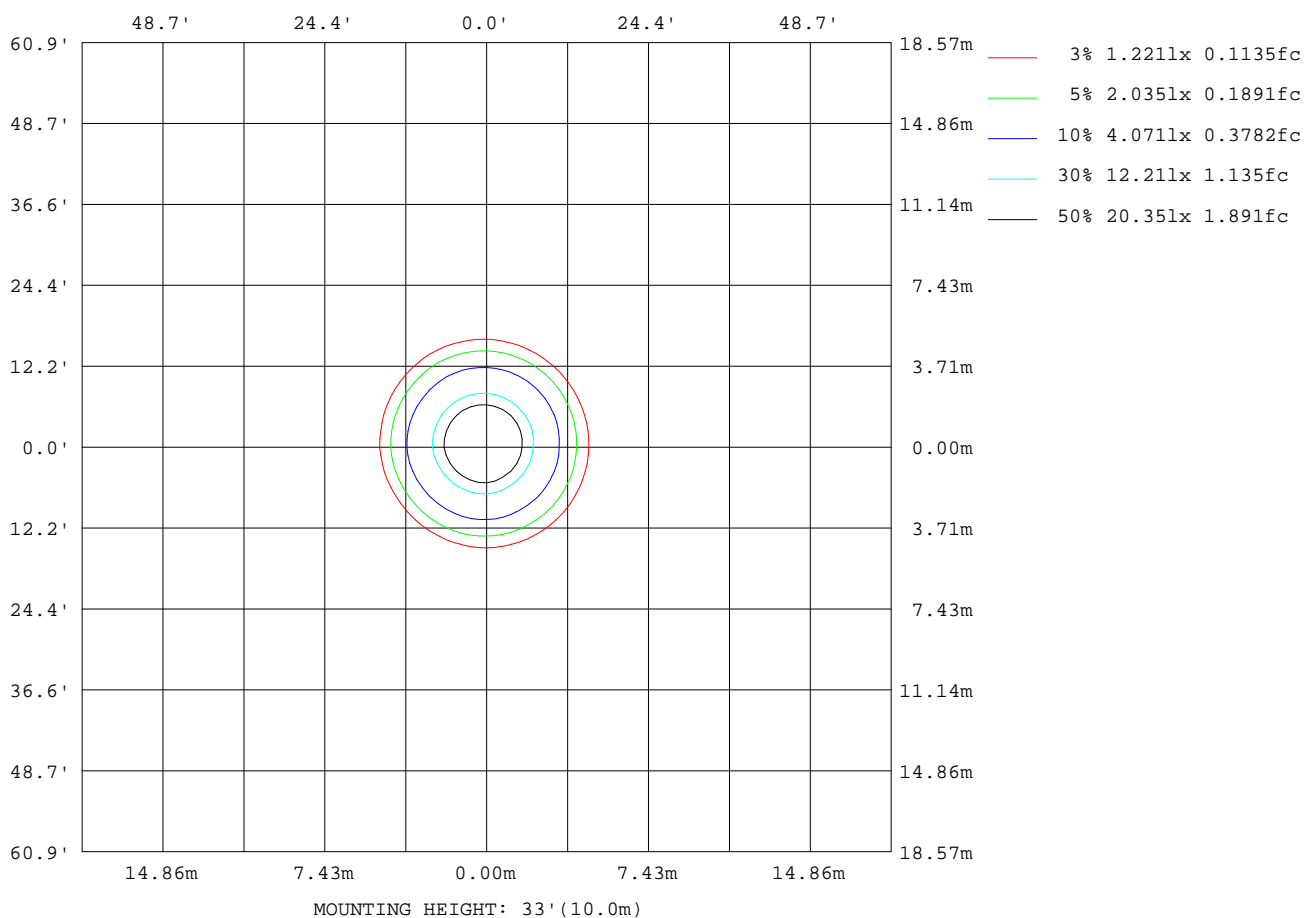
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2023-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:221.1V I:0.0526A P:10.65W PF:0.9155 Freq:49.99Hz Lamp Flux:879.65x1 lm		
NAME: MINUX 44-9W-930-20D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Jasoan
 Test Date:2023-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
 Humidity:58%
 Test Distance:8.967m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:221.1V I:0.0526A P:10.65W PF:0.9155 Freq:49.99Hz Lamp Flux:879.65x1 lm		
NAME: MINUX 44-9W-930-20D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

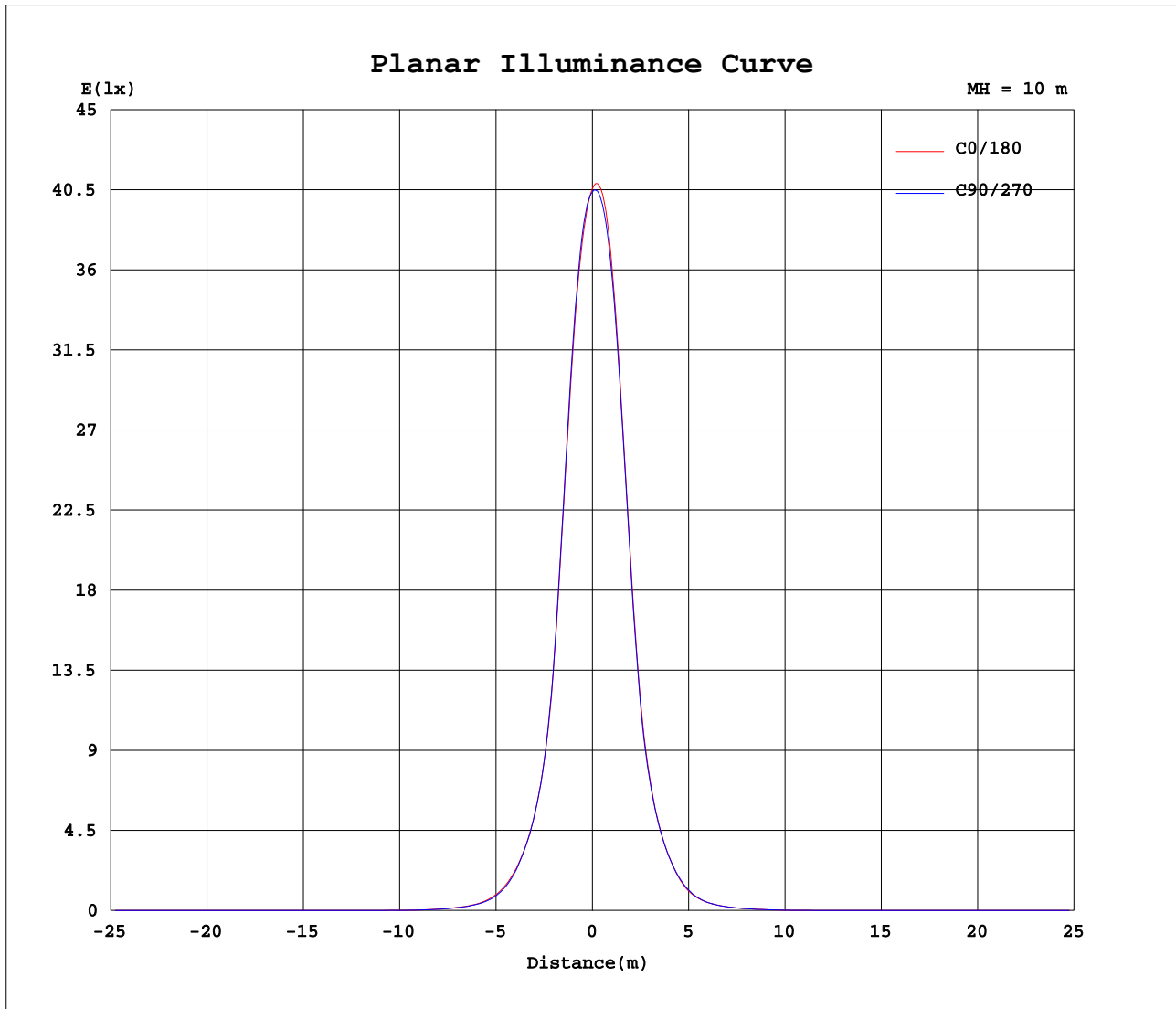
AvgL	cd/m2
L_0~180 (65) av	743
L_0~180 (75) av	245
L_0~180 (85) av	291
L_90~270 (65) av	670
L_90~270 (75) av	246
L_90~270 (85) av	321
L_45 (65) av	688
L_45 (75) av	235
L_45 (85) av	290

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jasoan
Test Date:2023-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jasoan
Test Date: 2023-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 58%
Test Distance: 8.967m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

```